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Potential Air Carrier Business Strategies

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Technology Assessment

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Objective

- Identify the business strategies and their triggering conditions that the air carriers may adopt in the future when faced with capacity limitations
- Provide a reasonable traffic demand forecast to quantify AATT program benefit.
 - Current air traffic demand forecast models inadequately consider the operational constraints
 - NAS is predicted to be severely congested

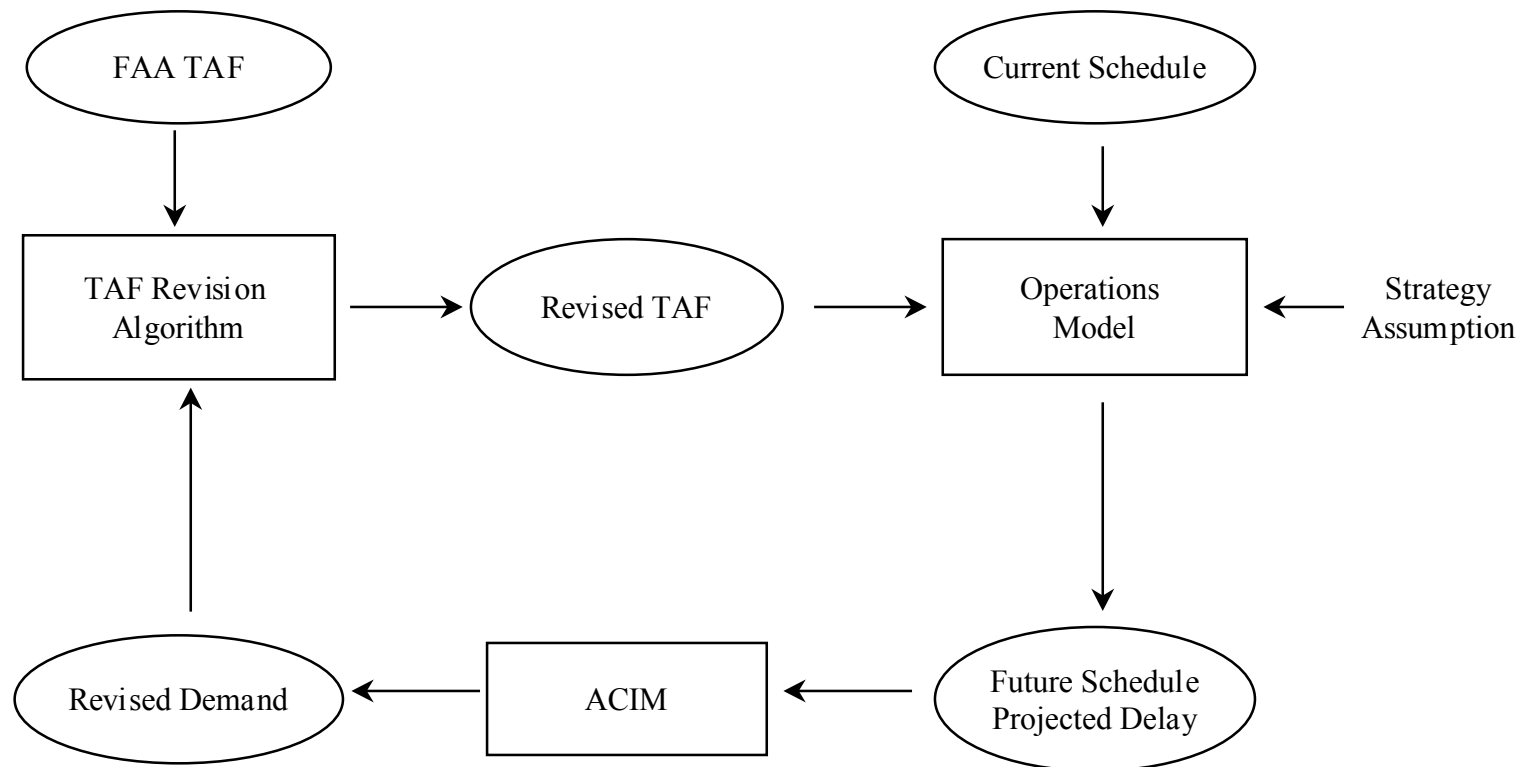
Tasks

- Describe Operations Concept
 - Current air carrier business strategies
 - Future air traffic demand
 - Future operations concept
- Develop a Technical Approach
 - Analysis methodology
 - Evaluation of each operation concept
- Define and Analyze New Business Strategies

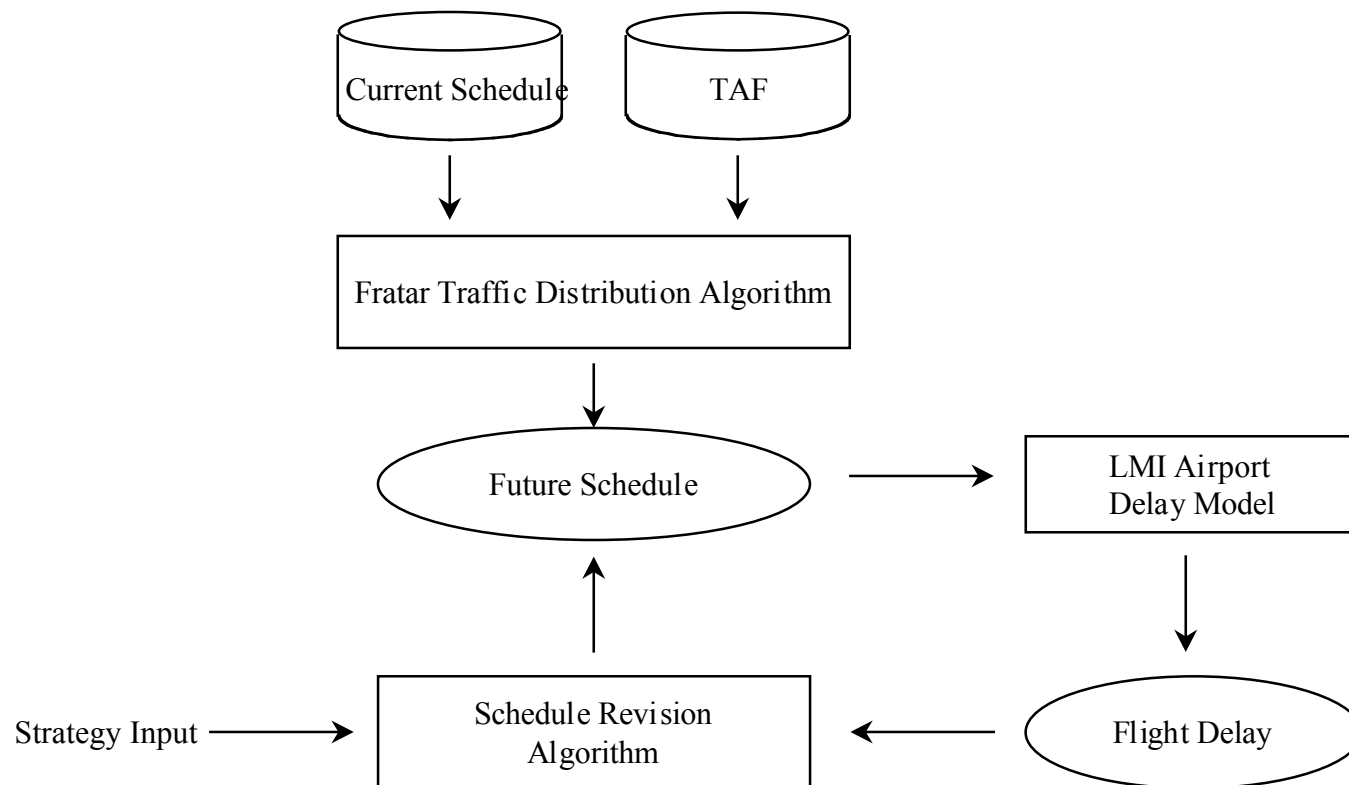
Operation Concepts under Capacity Constraints

- Increase airplane size
- Move flights to off-peak times
- Increase night time operations
- Increase direct service to avoid congested hubs and gateways
- Use secondary airports in metropolitan areas

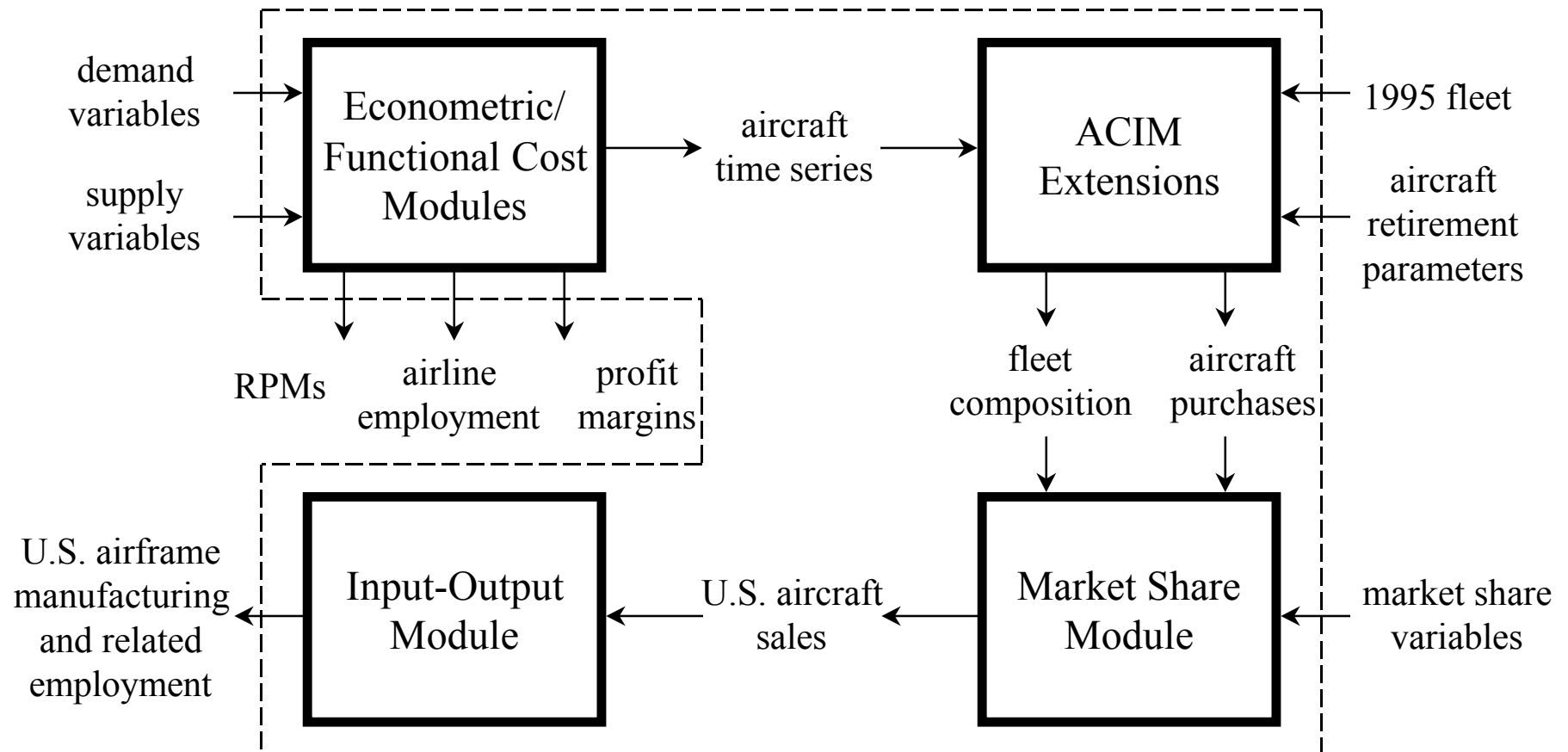
Analysis Methodology Schematic



Air Carrier Operations Model Schematic



ACIM Schematic



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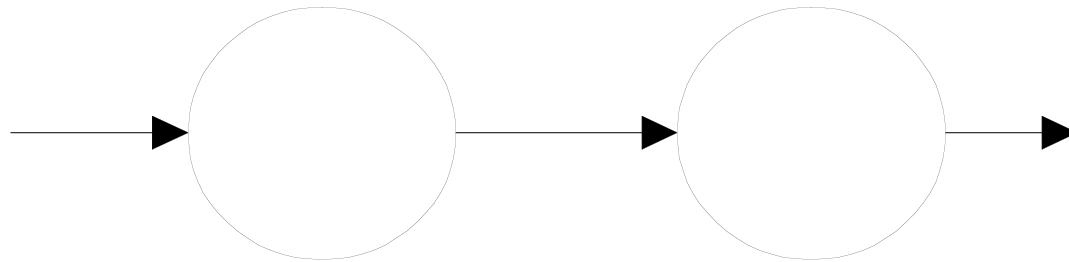
Location of 64 LMINET Airports

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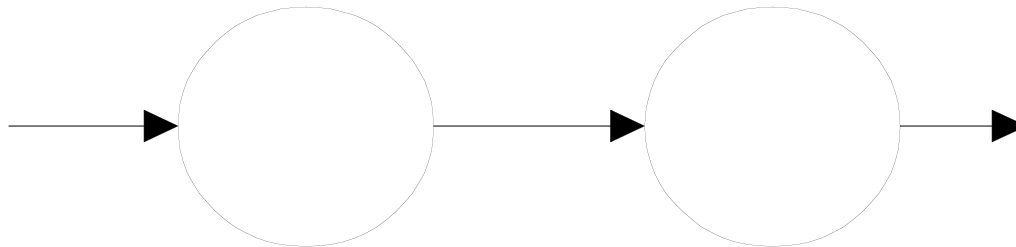
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LMI Airport Flight Delay Model

Arrival Queues



Departure Queues



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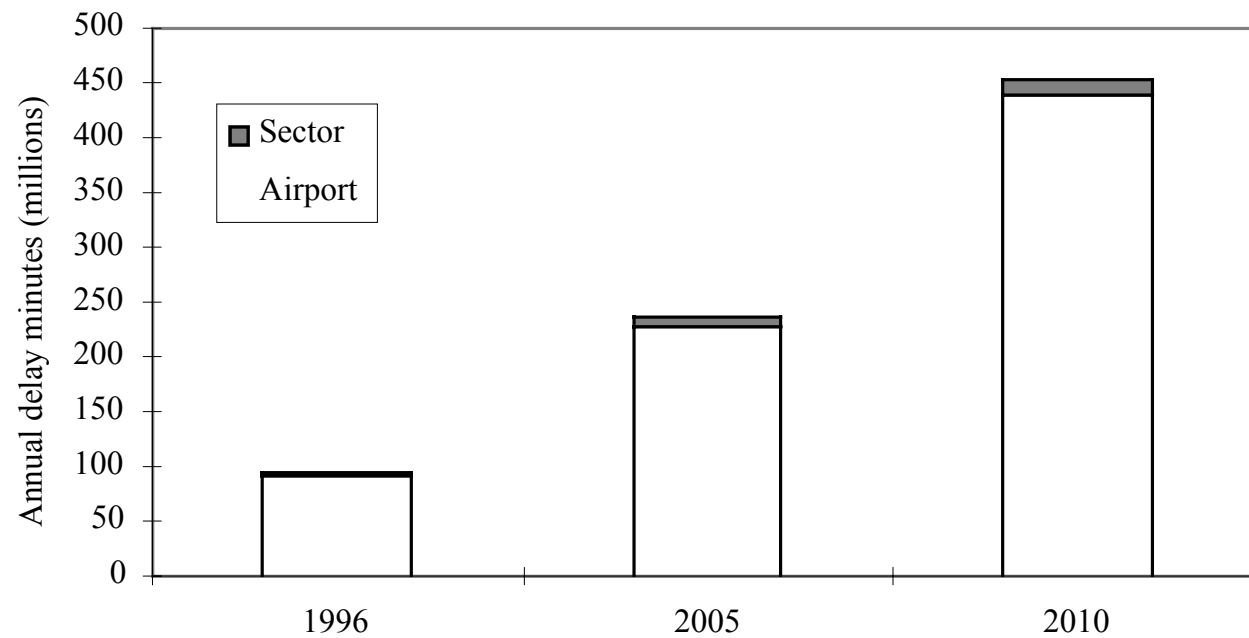
Airline Strategies and Analytical Approach

- ◆ Employ larger aircraft, as opposed to growth in frequency
- ◆ Smoothing the peaks and valleys of typical bank operations to mitigate the growth of delay at major hub airports
- ◆ Shift additional resources toward direct service as opposed to connecting service to mitigate congestion at major hub airports

Airline Strategies

- ◆ Establish new hub airports to mitigate congestion at existing hub airports
- ◆ Shift additional resources toward nighttime operations
- ◆ Increase fares and ration demand in the face of scarce capacity

Example: Impact of Fare Increases



Industry Output Under Fare Increases

